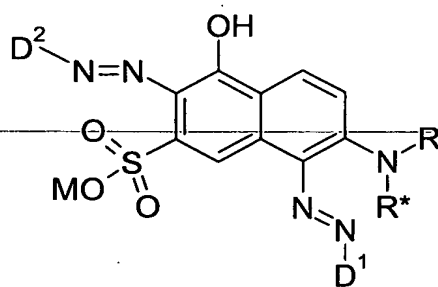


We claim:

1. Reactive dyes as per the hereinbelow indicated and defined general formula (I),

5

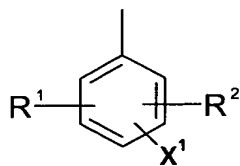


(I)

where

10

D¹ and D² are independently a group of the general formula (1)



(1)

15

where

R¹ and R² are independently hydrogen, (C₁-C₄)-alkyl, (C₁-C₄)-alkoxy, hydroxyl, sulfo, carboxyl, cyano, nitro, amido, ureido or halogen; and

20

X¹ is hydrogen or a group of the formula -SO₂-Z,

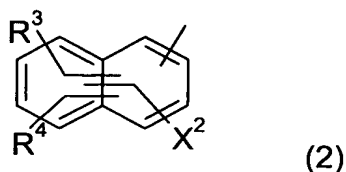
where

Z is -CH=CH₂, -CH₂CH₂Z¹ or hydroxyl,

where

Z¹ is hydroxyl or an alkali-detachable group; or

D¹ and D² are independently a naphthyl group of the general formula (2)



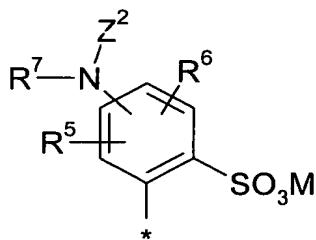
5 where

R³ and R⁴ are independently hydrogen, (C₁-C₄)-alkyl, (C₁-C₄)-alkoxy, hydroxyl, sulfo, carboxyl, cyano, nitro, amido, ureido or halogen; and

X² has one of the meanings of X¹; or

10

D¹ and D² are independently a group of the general formula (3)



(3)

15

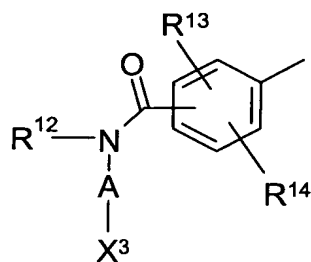
where

R⁵ and R⁶ independently have one of the meanings of R¹ and R²;

R⁷ is hydrogen, (C₁-C₄)-alkyl, unsubstituted or (C₁-C₄)-alkyl-, (C₁-C₄)-alkoxy-, sulfo-, halogen- or carboxyl-substituted phenyl; and

20 Z² is a heterocyclic reactive radical; or

D¹ and D² are independently a group of the general formula (9)



(9)

5

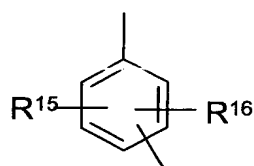
where

R^{12} is hydrogen, (C₁-C₄)-alkyl, aryl or a substituted aryl radical;

R^{13} and R^{14} are independently hydrogen, (C₁-C₄)-alkyl, (C₁-C₄)-alkoxy, hydroxyl, sulfo, carboxyl, cyano, nitro, amido, ureido or halogen; and

A is a phenylene group of the general formula (10)

10



(10)

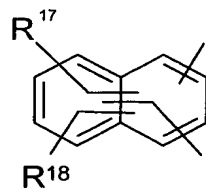
where

R^{15} and R^{16} are independently hydrogen, (C₁-C₄)-alkyl,

15

(C₁-C₄)-alkoxy, hydroxyl, sulfo, carboxyl, cyano, nitro, amido, ureido or halogen; or

a naphthylene group of the general formula (11)

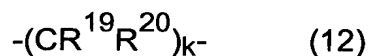


(11)

20

where

R^{17} and R^{18} are independently hydrogen, (C₁-C₄)-alkyl, (C₁-C₄)-alkoxy, hydroxyl, sulfo, carboxyl, cyano, nitro, amido, ureido or halogen; or a polymethylene group of the general formula (12)



where

k is a whole number greater than 1 and

R^{19} and R^{20} are independently hydrogen, (C₁-C₄)-alkyl,

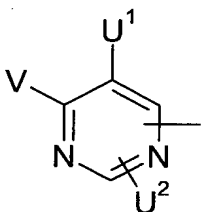
(C₁-C₄)-alkoxy, hydroxyl, cyano, amido, halogen or aryl; and

X^3 has one of the meanings of X^1 ; and

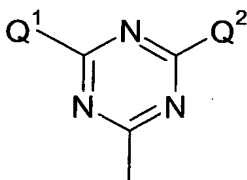
15 R, R^* are independently hydrogen, (C₁-C₄)-alkyl or sulfomethyl; and

M is hydrogen, an alkali metal or one equivalent of an alkaline earth metal, with the proviso that the dyes of the general formulae (I) contain at least one fiber-reactive heterocyclic group of the general formula.

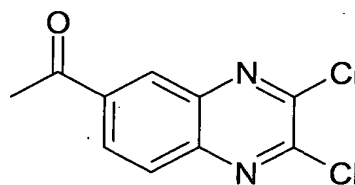
20 2. Reactive dyes as per claim 1, wherein Z^2 is a group of the general formula (4) or (5) or (6)



(4)



(5)

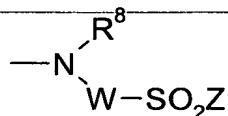


(6)

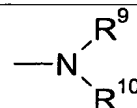
where

V is fluorine or chlorine;

U^1, U^2 are independently fluorine, chlorine or hydrogen; and
 Q^1, Q^2 are independently chlorine, fluorine, cyanamido,
 hydroxyl, (C₁-C₆)-alkoxy, phenoxy, sulfophenoxy, mercapto,
 (C₁-C₆)-alkylmercapto, pyridino, carboxypyridino,
 carbamoylpyridino or a group of the general formula (7) or (8)



(7)



(8)

10

where

R^8 is hydrogen or (C₁-C₆)-alkyl, sulfo-(C₁-C₆)-alkyl or
 phenyl unsubstituted or substituted by (C₁-C₄)-alkyl,
 (C₁-C₄)-alkoxy, sulfo, halogen, carboxyl, acetamido,
 ureido;

15

R^9 and R^{10} independently have one of the meanings of R^8 or
 combine to form a cyclic ring system of the formula
 -(CH₂)_j-, where j is 4 or 5, or alternatively
 -(CH₂)₂-E-(CH₂)₂-, where E is oxygen, sulfur, sulfo,
 -NR¹¹ where R^{11} = (C₁-C₆)-alkyl;

20

W is phenylene which is unsubstituted or substituted by 1
 or 2 substituents, such as (C₁-C₄)-alkyl, (C₁-
 C₄)-alkoxy, carboxyl, sulfo, chlorine, bromine, or is
 (C₁-C₄)-alkylene-arylene or (C₂-C₆)-alkylene, which
 can be interrupted by oxygen, sulfur, sulfo, amino,
 carbonyl, carboxamido, or is phenylene-CONH-
 phenylene, which is unsubstituted or substituted by
 (C₁-C₄)-alkyl, (C₁-C₄)-alkoxy, hydroxyl, sulfo, carboxyl,

25

amido, ureido or halogen, or is naphthylene which is unsubstituted or substituted by 1 or 2 sulfo groups; and

Z is as defined above.

5

3. Reactive dyes as per claim 1 and 2, where the substituents R are hydrogen or sulfomethyl and R* is hydrogen.

10

4. Reactive dyes as per at least one of claims 1 to 3, characterized in that the substituents R¹ and R² are hydrogen, methyl, methoxy or sulfo, R³ to R⁶ and R¹² to R²⁰ are hydrogen and R³ to R⁶, R¹⁷ and R¹⁸ are also sulfo, R⁷ to R¹⁰ are hydrogen or methyl, R⁷ and R⁸ are also phenyl and R⁹ and R¹⁰ are also 2-sulfoethyl, 2-, 3- or 4-sulfophenyl, or R⁹ and R¹⁰ combine to form a cyclic ring system which conforms to the formula $-(CH_2)_2-O-(CH_2)_2-$.

15

5. Reactive dyes as per at least one of claims 1 to 4, characterized in that Z is vinyl, β-chloroethyl or β-sulfatoethyl.

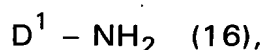
20

6. Reactive dyes as claimed in at least one of claims 1 to 4, characterized in that Q¹ and Q² in the general formula (5) are independently fluorine, chlorine, cyanamido, morpholino, 2-sulfophenylamino, 3-sulfophenylamino, 4-sulfophenylamino, 3-(2-sulfatoethylsulfonyl)phenylamino, 4-(2-sulfatoethylsulfonyl)phenylamino, 3-(vinylsulfonyl)phenylamino, 4-(vinylsulfonyl)phenylamino, N-methyl-N-(2-(2-sulfatoethylsulfonyl)ethyl)amino or N-phenyl-N-(2-(2-sulfatoethylsulfonyl)ethyl)amino.

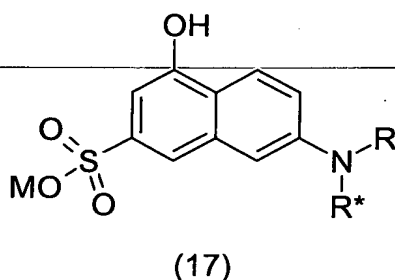
25

7. A process for preparing dyes of the general formula (I) as per one or more of claims 1 to 6, which comprises one equivalent of an amine of the general formula (16)

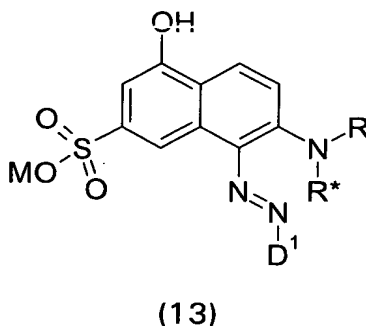
30



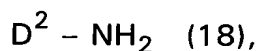
where D^1 is as defined in claim 1 being diazotized in conventional manner and the resulting diazonium compound being reacted in a first stage with an aqueous solution or suspension of one equivalent of a coupling component as per the general formula (17)



where R , R^* and M are each as defined in claim 1, to form a monoazo dye as per the general formula (13)



and subsequently one equivalent of an amine of the general formula (18)



where D^2 is as defined in claim 1, being diazotized in conventional manner and the resulting diazonium compound being coupled in the second stage with the monoazo dye of the general formula (13) obtained in the first stage to form the disazo dye of the general formula (I).

8. The process for preparing dyes of the general formula (I) as per one or more of claims 1 to 6 in the event that the groups D^1 and D^2 as per the general formulae (I) have the same meaning by two equivalents of an amine of the general formula (16) where D^1 is as defined in claim 1 being diazotized in conventional
5 manner and reacted in a first stage with one equivalent of a coupling component of the general formula (17) to form a monoazo dye of the general formula (13) and the second coupling to the disazo dye of the general formula (I) where the groups D^1 and D^2 have the same meaning being carried out subsequently.

10 9. An aqueous liquid preparation containing a dye as set forth in at least one of claims 1 to 8 at a level of 5-90% by weight.

10. The use of reactive dyes as per one or more of claims 1 to 9 for dyeing or printing hydroxyl- and/or carboxamido-containing fiber material.

15

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☒ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.